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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,636	12/16/2003	Matthew R. Patrick	026064-00005	3520
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ARENT FOX PLLC 1050 CONNECTICUT AVENUE, N.W. SUITE 400 WASHINGTON, DC 20036			EXAMINER GORMAN, DARREN W	
			ART UNIT 3752	PAPER NUMBER

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/735,636

Applicant(s)

PATRICK, MATTHEW R.

Examiner

Darren W. Gorman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 May 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown or the features canceled from the claims. No new matter should be entered.

- The nozzle further comprising a second component tube including a directing opening as recited in claims 4 and 5 is not shown.
- The nozzle wherein the second component passage has a threaded inner surface and the second component tube has a threaded outer surface as recited in claim 6 is not shown.
- The nozzle wherein the first component passage has a threaded inner surface portion and the output extension has a threaded outer surface portion as recited in claims 12 and 13 is not shown.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

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application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

- Reference numbers "30" and "31", as disclosed on page 10, line 7 of the specification, are not shown in the drawings.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

- Reference number "21", as shown in Figure 11, is not mentioned in the specification.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### *Specification*

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

- The specification does not provide proper antecedent basis for the claimed subject matter of claims 12 and 13. Claims 12 and 13 recite the first component passage having a threaded inner surface portion and the output extension having a threaded outer surface portion, however the specification (see page 10, lines 1-4) discloses that the output extension (i.e. the fuel tube) is fixedly inserted into its receiving opening "such as by pressure fitting" or by other known methods, devices and features in the art (see page 10, lines 4-7). The specification does not expressly disclose the specifically claimed threaded arrangement as recited in claims 12 and 13.

***Claim Objections***

5. Claims 13, 19 and 20 are objected to because of the following informalities:
- Regarding claim 13, the recitation “the threaded inner surface portion of the first component passage” lacks proper antecedent basis.
  - Regarding claim 19, the recitation “the second threaded end of the first fitting” lacks proper antecedent basis.
  - Regarding claim 20, the recitation “a second fitting” is unclear, since no “first fitting” has been positively recited.
- Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.
7. Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 27, there is an inconsistency between the language in the preamble, which recites a “nozzle”, and the body of the claim, which also positively recites a “throttle body for an engine”. This makes the scope of the claims unclear since they appear to be reciting the subcombination of the nozzle, however, the limitation concerning the combination with the throttle body is also positively recited. Applicant is required to clarify whether claim 27 is

drawn to the subcombination or the combination and to amend the claims to be consistent with the intent. As to treating claim 27 on the merits, the examiner is considering the claim to be drawn to the combination of the nozzle and the throttle body for an engine.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-3, 7-11 and 14-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Vaznaian et al., USPN 4,827,888.

Regarding apparatus claims 1-3, 7-11 and 14-28, Vaznaian (see Figures 1 and 2) shows a nozzle body (10); a first component passage in the nozzle body; a first component transfer tube (13), embodied as a fuel tube, receivably located in the first component passage (the portion of the fuel passage in the upstream portion of the nozzle but within the confines of nozzle body 19, as shown in Figure 2 of Vaznaian, is being applied for anticipating the first component passage), a first end (15) of the fuel tube extending from the nozzle body; and a second component passage (no reference number) in the nozzle body, the second component passage having a directing opening (14); wherein a flow of the first component is discharged from the first end of the fuel tube, wherein the second component passage directs a flow of the second component via the directing opening, wherein the flow of the second component forms a plume, and wherein the plume encompasses the first end of the fuel tube to produce a low-pressure draw of the first

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component from the fuel tube and to atomize the first component. Vaznaian further teaches a range of variable pressures of the second component (see column 4, lines 64-65). Inherently, the low-pressure draw of the first component would vary based on the varying pressure of the second component. Vaznaian further shows first and second fittings (17, 18), each having a fitting passage therein, a drivable portion, and first and second threaded ends, the first threaded end of each fitting being in threaded connection to mating threads formed in the nozzle body. Still further, Vaznaian discloses the first component as fuel and the second component as nitrous oxide. Vaznaian also discloses that the source of nitrous oxide supplies the nitrous oxide in liquid form. Inherently, liquid nitrous oxide delivered within the disclosed pressure range would be stored in and delivered from a pressure bottle, and inherently the pressure delivery of the nitrous oxide would vary with varying bottle pressure. And still further, Vaznaian shows a threaded outer portion (16) on the nozzle body for adapting the nozzle to mating threads for connection to a throttle body of an engine.

Regarding method claim 29, when in use, the apparatus as shown by Vaznaian and discussed above, anticipates the recited method steps.

10. Claims 1-17, 19-25, 28 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Gibson, USPN 1,564,343.

It should be noted, for the purposes of applying the prior art of Gibson, the examiner has taken the position that the first and second components themselves are not part of the claimed nozzle structure, and hence do not carry patentable weight.



Regarding apparatus claims 1-17, 19-25 and 28, Gibson shows a nozzle body (2, 1, 5); (see Figures 1); a first component passage (passage inside elements 10 and 14) in the nozzle body; a first component transfer tube (16), embodied as a fuel tube, receivably located in the downstream end (downstream end of element 14) of the first component passage via mating threads (see Figure 1; and page 1, lines 77-79), a first end (17) of the fuel tube extending from the nozzle body; and a second component passage (passage inside elements 1, 2, 4, 5, 7, 8 and 9) in the nozzle body, the second component passage having a directing opening (downstream end of 8) which is directed directly towards the first end of the fuel tube. Gibson further shows a second component tube being receivable in the second component passage and having a directing opening (downstream end of 9), wherein the second component passage has a threaded inner surface mated to a threaded outer surface of the second component tube (see Figure 1). Gibson further shows a first fitting (11) having a passage formed therein, the fitting being threadedly attached to the nozzle body at one end and threadedly attached to a fuel line (13) at the other end, the fitting passage communicating with the first component passage, the fitting also including a drivable portion (the exterior of element 11 is capable of being driven by hand or by tools when at least one of the threaded connections are made). Gibson also shows an externally threaded portion on the upstream end of element (4), which inherently would receive a second fitting.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Vaznaian et al.

Vaznaian shows all of the structural limitations as recited in claim 1, however Vaznaian is silent as to the means by which the fuel tube (13) is connected to the first component passage in the nozzle body.

It is well known in the art to connect fluid conduit parts using mating internal and external threads such that the parts may be assembled and disassembled efficiently. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include mating threads, as is well known in the art, on an inner surface portion of the first component passage and an outer surface portion of the fuel tube, as shown by Vaznaian, in order to provide a connection between the two fluid conduits for efficient assembly and disassembly.

13. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gibson.

Gibson shows all of the structural limitations as recited in claim 15, however Gibson discloses the upstream portion of element (10) as having a threaded fitting portion for mating with the downstream threaded end of the first fitting (11), rather than the nozzle body having the threaded fitting portion.

Considering the device shown by Gibson and the knowledge of one skilled in the art, it is reasonable to expect the device of Gibson to perform equally well with the fitting being threaded

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to the nozzle body itself, since such an arrangement involves a simple rearrangement of parts and would not adversely affect the disclosed and shown fluid connection between the fitting and the first component passage. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to arrange the fluid connection of the fitting to the first component passage of Gibson such that the fitting is threaded onto a threaded portion of the nozzle body, since such a rearrangement would not adversely affect the fluid connection, and since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

### ***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents to Loepsinger, Bass, Bolton, Wood et al., Grant, Thomas et al, and Steele, are cited as of interest.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darren W. Gorman whose telephone number is 571-272-4901. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel can be reached on 571-272-4919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Darren W Gorman  
Examiner  
Art Unit 3752

*DWG 2/8/06*

DWG  
February 8, 2006

  
**David A. Scherbel**  
**Supervisory Patent Examiner**  
**Group 3700**